ROSIE V3

AUTOMATED VITAL SIGNS SYSTEM

Training and Operating Guide

NURSE ROSIE PRODUCTS

Distributed by Life Systems, Inc.

7320 Central Avenue | Savannah, GA 31406 | 800.841.1109

www.NurseRosie.com

Foreword

Nurse Rosie Products®, distributed by Life Systems, Inc., would like to thank you for your purchase of the Rosie series vital signs monitor. Please read this manual carefully before using the monitor. Familiarize yourself with the features, methods of use, cautions and warnings, as well as any limitations of the monitor. This manual should be kept in a safe, convenient place for future reference.

No part of this manual should be reprinted or reproduced without permission. Nurse Rosie Products®, distributed by Life Systems, Inc., maintains the right to modify the contents of this manual without prior notice. If you have any questions about the information presented in this manual or about other Nurse Rosie Products®, distributed by Life Systems products, please contact us at:

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1.0 Introduction

1.1 Purpose of Manual

This manual describes and supports RosieV3 by discussing the fully configured model that includes NIBP, Pulse, Pulse Oximetry, Temperature and an Onboard Printer.

*** For step-by-step operating instructions; refer to the Operations Manual (CD) that came with your RosieV3. ***

1.2 General Description

The RosieV3 monitor is an automatic, portable, adult, pediatric and neonatal vital signs monitor. RosieV3 measures NIBP, Pulse Rate, SpO_2 and Temperature. The RosieV3 features front panel digital displays for Mean Arterial Pressures, Temperature, and Interval Mode Timer. It has extra large displays for the Systolic, Diastolic, Pulse Rate, Temperature, and SpO_2. The RosieV3 incorporates a Liquid Crystal Display (LCD) to view stored measurements and to access system setting menus.

Temperature can be measured with the Predictive Thermometer Module (SmarTemp™). The monitor is equipped with a printer module for documenting NIBP, Pulse Rate, SpO_2, and Temperature information. Each printout includes the time and date of each measurement.

The RosieV3 stores a maximum of 1,200 groups of measurement data in memory. These 1,200 groups of measurement data are shared by the number of Residents that are monitored (one Resident at a time) by the RosieV3. When only one Resident is monitored, the RosieV3 can store up to 1,200 groups of measurement data for that one Resident. When more than one Resident is monitored, the RosieV3 can store any number of measurements for each Resident provided the total number of stored groups of measurement data for all Residents equals 1,200 or less.

The RosieV3 has an Interval Mode that enables the unit to take automatic NIBP measurements at timed intervals. Alarm limits can be set for RosieV3 parameters. All alarm violations are indicated by an audible alarm tone, flashing front panel displays, parenthesis around the violated parameter on the printer printouts, and reverse video on the Trend (stored) display.

The RosieV3 can operate up to 9 hours, one NIBP measurement taken every 15 minutes, continuous SpO_2 measurement, and the printer not in use or up to 12 hours if not in continuous use, on a rechargeable Lithium-ion battery.

1.3 Warranty

Life Systems, Inc. warrants that its products will be free from defects in workmanship and materials for a period of three (3) years, with an optional additional two (2) years, from the date of purchase except that disposable or one-time use products are warranted to be free from defects in workmanship and materials up to 90 days from the date of purchase or the date of first use, whichever is sooner.

This warranty does not cover consumable items such as, but not limited to, batteries, external cables, sensors, cuffs, hoses, or mounts.

Except as otherwise provided herein, the terms, conditions and limitations of the Life Systems, Inc. standard warranty will remain in effect.

Life Systems, Inc. shall not be liable for any incidental, special, or consequential loss, damage, or expense directly or indirectly arising from the use of its products. Liability under this warranty and the buyer's exclusive remedy under this warranty are limited to servicing or replacing at Life Systems, Inc.'s option at the factory or at an authorized distributor, any product which shall under normal use and service appear to the Company to have been defective in material or workmanship.

Recommended preventative maintenance, as prescribed in the service manual, is the responsibility of the User and is not covered by this warranty.

No agent, employee, or representative of Life Systems, Inc. has any authority to bind Life Systems, Inc. to any affirmation, representation, or warranty concerning its products, and any affirmation, representation or warranty made by any agent, employee, or representative shall not be enforceable by buyer.

This warranty is expressly in lieu of any other express or implied warranties, including any implied warranty or merchantability or fitness, and of any other obligation on the part of the seller.

Damage to any product or parts through misuse, neglect, accident, or by affixing any nonstandard accessory attachments or by any customer modification voids this warranty. Life Systems, Inc. makes no warranty whatever in regard to trade accessories, such being subject to the warranty of their respective manufacturers.

A condition of this warranty is that this equipment or any accessories which are claimed to be defective be returned when authorized, freight, excluding overnight, prepaid to Life Systems, Inc., Savannah, Georgia 31406 or its authorized representative. Life Systems, Inc. shall not have any responsibility in the event of loss or damage in transit. User agrees to pay any freight cost associated with service from User's facility.

1.4 Exclusion

This warranty does not extend to any warranted products (or parts thereof) that have been subject to misuse, neglect or accident; that have been damaged by causes external to the Warranty, including but not limited to failure of or faulty electrical power; that have been in violation of Life System's instructions; that have been affixed to any nonstandard accessory attachment; on which the serial number has been removed or made illegible; or that have been modified or improperly disassembled, serviced or reassembled by anyone other than Life System's, unless authorized by Life Systems.

Life Systems makes no warranty (a) with respect to any disposable products that are not warranted products, (b) with respect to any product purchased from a person other than Life Systems or a Life Systems Authorized distributor, or (c) with any respect to any product sold under a brand name other than Life Systems.

Life Systems will not be responsible for the effect of safety, reliability, and or performance of the product if: (a) assembly operations, extension, readjustments, modifications, or repairs are carried out by persons other than Life Systems or persons authorized by Life Systems to perform repair service on Life System's behalf; or (b) the electrical installation does not comply with the requirements of the applicable national and international standards, including requirements of the IEC; or (c) the Product is not used in accordance with Life System's instruction for use.

In the event of a defect in the product, Life Systems will be liable for injury or death of any actual person, or damage to property, to the extent, but only to the extent, that such liability is mandated under laws applicable to manufacturers in general and to manufacturers of the product category to which the product belongs.

1.5 Service Limitations

Maintenance and repair services performed by user personnel on the equipment covered in this manual apply only to products that are out of warranty. All warranty repairs should be performed only by qualified service technicians authorized by Life Systems. A comprehensive technical service manual for the Rosie containing specific information about operation, calibration, parts listing, and schematics can be obtained by contacting Life Systems Technical Service Department.

1.6 Returning the Unit

Prior to returning a unit for any reason, please call Technical Services at:
1(800) 841-1109 Ext. 105.

For the most efficient and effective troubleshooting, you will need to have the unit in front of you and be knowledgeable of the problem the unit is experiencing. If it is determined that the unit needs servicing, a Return Authorization* number (RA #) will be assigned and the Life Systems technician will instruct you on how to return the unit. * ***Life Systems will not accept any package without a valid RA#.***

Ship to: Life Systems, Inc. | 7320 Central Avenue | Savannah, GA 31406

1.7 Shipping Procedures

Products shipped by Purchaser under this warranty shall be suitably packaged to protect the product. If Purchaser ships a product to Life Systems in unsuitable or inadequate packaging, any physical damage present in the product on receipt by Life Systems (and not previously reported) will be presumed to have occurred in transit and will be the responsibility of the Purchaser.

1.8 UL & CSA Recognition

Safety, IEC	EN 60601-1:1990 +A1:1993 + A2:1995 +A13:1996 / IEC 60601-1:1988 +A1:1991 +A2:1995
Safety, UL	UL 60601-1:2003
Safety, Canada	CAN/CSA C22.2 No. 601.1-M90 (R2005)

2.0 Physical Description

2.1 General Safety Information

RosieV3 monitors should be operated in a location that is free from liquids (spillage), flammable chemicals or gases, vibration, shock, and extremes of temperature, ventilation and humidity. To avoid a possible accident, place the unit on a firm, flat base or mount it securely to a heavy-duty stand. Do not place items on top of the monitor and keep the cooling path free from obstructions while operating. Clean it with a soft damp cloth as directed in Sec. 4.4; do not use solvents or other harsh chemicals. Do not autoclave. Refer to the Sec. 2.3 for other Warnings, Cautions and Notes of Use.

2.2 General Operating Precautions

Arrange the power cord and cuff hose so that they do not create a hazard and are not tangled during operation.

Always follow approved technique when using each parameter. Refer to the section(s) in this manual pertaining to the parameter(s) included in your monitor.

Always press front panel switches with a fingertip; NEVER USE a fingernail, pen, or other pointed object.

2.3 Safety Symbols and Terms for Safety

Warnings, Cautions and Notes of Use

Throughout this manual and on the actual products, safety symbols and terms are shown for safe and proper use of the product. The meanings of these symbols are shown below. Please familiarize yourself with these symbols before proceeding with this manual.

A **WARNING** is provided to alert the user to potentially serious outcomes (death, injury or serious adverse events) to the Resident or the user.

A **CAUTION** is provided to alert the user that special care should be taken for the safe and effective use of the device. They will include actions to be taken to avoid effects on Residents or users that will not be potentially life threatening or result in serious injury, but about which the user should be aware.

A **NOTE** is provided when additional general information is available.

Warnings

Internal Electrical Shock Hazard - This unit does not contain any user-serviceable parts. Do not remove instrument covers. Refer servicing to qualified personnel. When the integrity of the protective earth conductor, in the installation or its arrangement, is in doubt, the equipment should be operated from its internal battery. Observe all CAUTION and WARNING labels on the unit.

Possible Explosion Hazard - Do not operate machine near flammable anesthetic agents or other flammable substances. Do not use flammable anesthetic agents (i.e., ether or cyclopropane.)

Continued use of the STAT NIBP mode or short term automatic mode may result in surface vessel rupture (petechia).

Always place the unit on a flat, rigid surface or onto a Life Systems, Inc. approved stable mounting bracket.

To ensure proper performance and safety and to prevent the voiding of the warranty, only use authorized parts and accessories with the RosieV3. Use of unauthorized accessories may result in erroneous readings.

Use only cuffs with approved quick connect type connectors.

The RosieV3 is not intended for use in a magnetic resonance imaging (MRI) environment and may interfere with MRI procedures.

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and local regulations. Batteries used in this device may present a risk of fire or chemical burn if mistreated. Do not incinerate battery, possible explosion may occur.

Do not use a damaged or broken unit or accessory.

Operation of the RosieV3 below the minimum amplitude or value of Resident physiological signal may cause inaccurate results.

Use of accessories, transducers, and cables other than those specified in the manual may result in increased Electromagnetic Emissions or decreased Electromagnetic Immunity of the RosieV3. It can also cause delayed recovery after the discharge of a cardiac defibrillator.

Perform the decontamination or cleaning process with the unit powered down and power cord removed.

Use only authorized single use disposable probe covers when taking temperature measurements. Use of any other probe cover may result in erroneous readings or damage to the probe.

Cautions

Observe extreme caution when a defibrillator is in use. Do not touch any part of the Resident, table, or monitor when a defibrillator is in use. The RosieV3 should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the RosieV3 should be observed to verify normal operation in the configuration in which it will be used.

The unit should be checked periodically for obstructed vents. If an obstruction is found, refer the unit to qualified service personnel.

At the end of their life, dispose of the RosieV3, accessories, and single use supplies in accordance with local regulations. Dispose of packaging waste in accordance with local regulations.

Wrapping the cuffs too tightly may cause a hazard to the Resident.

When equipped with DPM SpO_2, use only DPM oxygen sensors and cables. Use of other oxygen sensors may cause improper oximeter performance.

Excessive ambient light may cause inaccurate SpO_2 measurements. Cover the sensor with opaque materials.

Inaccurate readings may be caused by incorrect sensor application or use; significant levels of dysfunctional hemoglobin's (i.e. carbohemoglobins or methemoglobin); or intra-vascular dyes such as indocyanine green or methylene blue; exposure to excessive illumination, such as surgical lamps (especially ones with a Xenon light source), bilirubin lamps, fluorescent lights, infrared heating lamps, or direct sunlight; excessive Resident movement; venous pulsations; electro-surgical interference; and placement of a sensor on an extremity that has a blood pressure cuff, arterial catheter, or intra-vascular line.

Route cables neatly. Ensure cables, hoses, and wires are kept away from Resident's neck to avoid strangulation. Keep floors and walkways free of cables to reduce risk to hospital personnel, Residents, and visitors. If the sensor or Resident cable is damaged in any way, discontinue use immediately.

When cleaning sensors, do not use excessive amounts of liquid. Wipe the sensor surface with a soft cloth, dampened with the cleaning solution. To prevent damage, do not soak or immerse the sensor in any liquid solution. **DO NOT ATTEMPT TO STERILIZE**.

Prolonged and continuous monitoring may increase the risk of skin erosion and pressure necrosis at the site of the sensor. Check the SpO_2 sensor site frequently to ensure proper positioning, alignment, and skin integrity at least every eight (8) hours; with the Adult and Pediatric re-usable finger sensor, check every four (4) hours; for neonates and Residents of poor perfusion or with skin sensitive to light, check every 2 - 3 hours; more frequent examinations may be required for different Residents. Change the sensor site if signs of circulatory compromise occur. Ensure proper adhesion, skin integrity, and proper alignment. Exercise extreme caution with poorly perfused Residents. When sensors are not frequently monitored, skin erosion and pressure necrosis can occur. Assess the site every two (2) hours with poorly perfused Residents and neonates.

Recharge the Lithium-ion battery while in the unit at room temperature. If using the RosieV3 in a hot environment, the Lithium-ion battery may not charge when the unit is connected to the AC mains.

Remove the battery if the RosieV3 is not likely to be used for an extended period of time.

The Communications Connectors on the RosieV3 are only for use with IEC 60601-1-1 compliant equipment.

Never place fluids on top of this monitor. If fluid spills on the unit, wipe clean immediately and refer the unit to qualified service personnel.

Notes

The RosieV3 should be operated only by trained and qualified personnel.

Use disposable and single use accessories only once.

Place the equipment in a location where the screen can easily be seen and the operating controls can easily be accessed.

In certain situations in which perfusion and signal strength are low, such as in Residents with thick or pigmented skin, inaccurately low SpO_2 readings will result. Verification of oxygenation should be made, especially in preterm infants and Residents with chronic lung disease, before instituting any therapy or intervention.

The instructions in this manual are based on the maximum configuration.

The Temperature module kit must be installed only by trained personnel, and proper ESD prevention methods must be followed.

Only devices specified by Life Systems, Inc. shall be connected the RS-232 port When the RS-232 connector is used for DIAP, barcode power must be set to OFF.

Disconnect the RosieV3 from the mains to isolate it from the mains power during an emergency.

Symbols and Description

Symbol	Description	Symbol	Description
	Attention, Consult Accompanying Documents / Refer to Manual		Type BF Equipment
	Equipotentiality Equipotential grounding		Defibrillator-proof Type BF Equipment
	Alternating Current (AC)		Adult
T1	Predictive Thermometer Connector		Pediatric/Child
SpO_2	SpO_2 Connector		Neonate
	Operating on battery power (green light)		Manufacturer
	Connected to AC mains (green light)		NIBP Connector
	Power On/Off – Standby		Recycle
SN	Serial number		Up key
REF	Part Number		Confirm key

Symbols and Description (cont.)

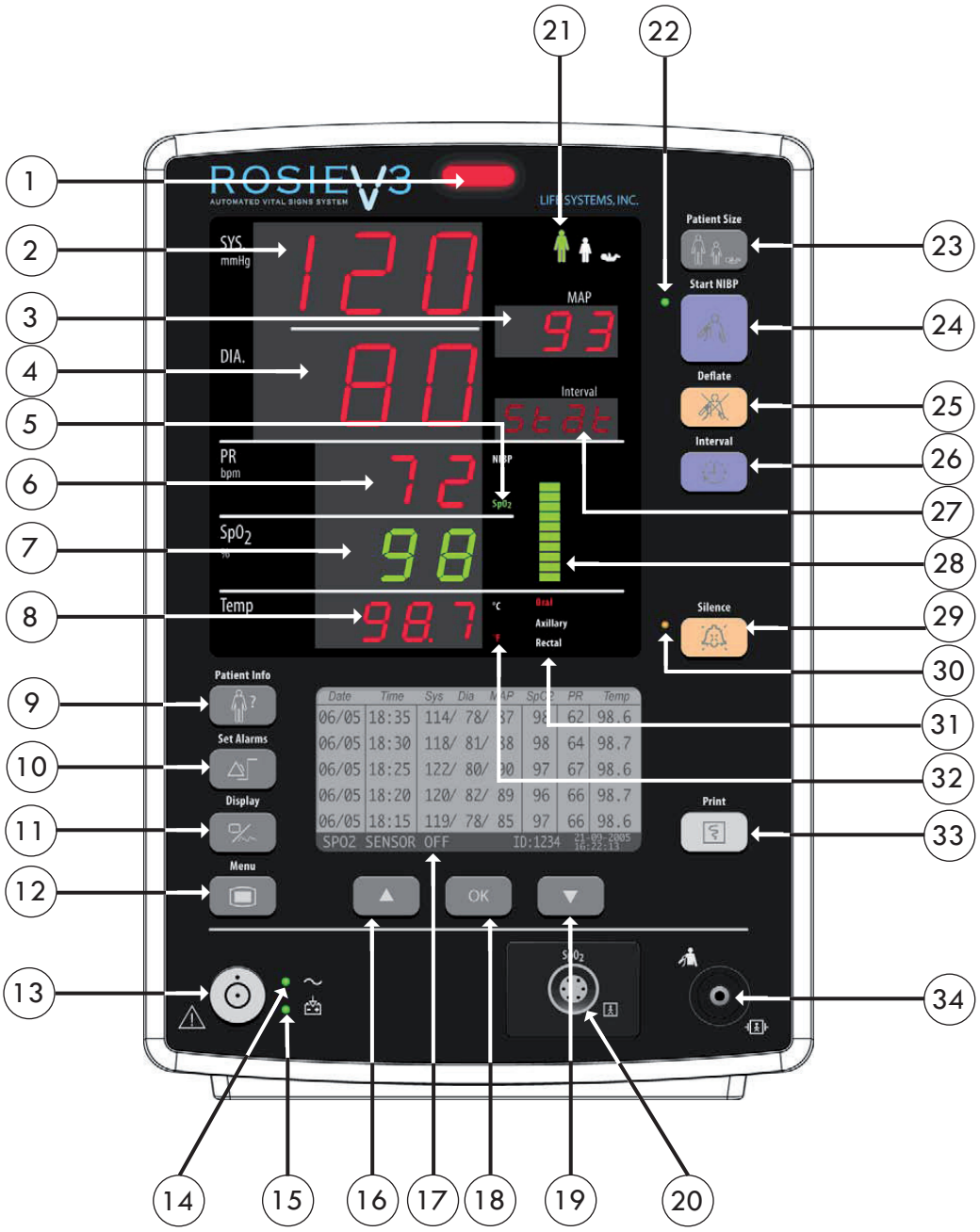
Symbol	Description	Symbol	Description
	Patient Information key		Down key
	Main menu key		Deflate Cuff key
	Set alarms key		Patient Size key
	Start NIBP key		Alarm Silence key
	Display Tabular Trends/ Pleth Wave	**NC1**	Nurse Call connector
	NIBP interval key	**SP1**	RS-232 connector(Serial Port 1)
	Print key (front panel)	**CS1**	Network connector
	Print key (printer)		Alarm Disabled indicator on LCD display
	Alarm Silenced indicator on LCD display		Audio Alarm Off indicator on LCD display

Classified by Underwriters Laboratories Inc. with respect to electric shock, fire and mechanical hazards, only in accordance with UL 60601-1, CAN/CSA C22.2 NO.601-1, IEC 60601-1-1, IEC 60601-2-30, IEC 60601-2-49.

2.4 Panel Call-Outs

This section of the Operating Instructions identifies and describes each control and display of the RosieV3

Front Panel



The following is a list of all controls, connectors, and indicators and their item numbers. The item number refers to the call-outs on the drawings within this chapter.

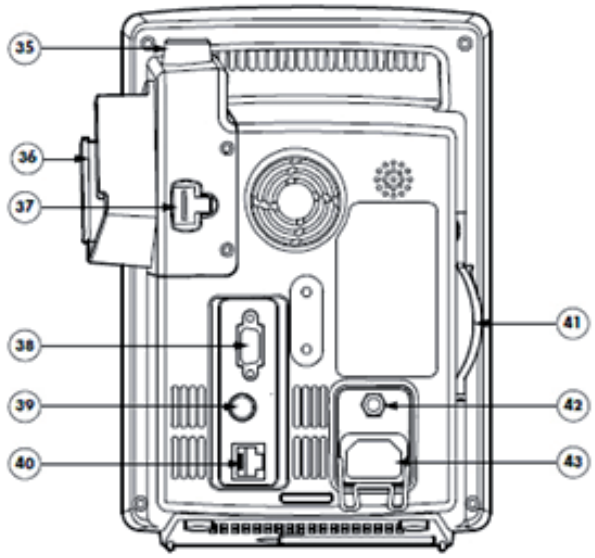
1. **Alarm lamp** Flashes red for a high priority alarm and shows continuous yellow for a low priority alarm.
2. **Systolic Pressure (SYS)** The value of systolic pressure is obtained by the NIBP module. When no other LED's illuminate and the SYS LED displays three (3) flashing dashes and the LCD display (17) is blank, the RosieV3 is in the standby state.
3. **Mean Pressure (MAP)** The value of mean pressure is obtained by the NIBP module.
4. **Diastolic Pressure (DIA)** The value of diastolic pressure is obtained by the NIBP module.
5. **Pulse Rate (PR) Source indicator** The PR source is either SpO_2 or NIBP.
6. **Pulse Rate (PR)** The value of the pulse rate is obtained by the NIBP module or SpO_2 module. The PR unit is beats per minute (bpm).
7. **Oxygen Saturation (SpO_2)** The monitor displays the SpO_2 value in %.
8. **Temperature (Temp)** The monitor displays the temperature value in degrees C or degrees F, selectable in the Temp SETUP dialog. The currently applied unit is illuminated as shown in callout (32).
9. **RESIDENT INFO key** Press to switch to the RESIDENT INFORMATION dialog and automatically create a Resident ID.
10. **SET ALARMS key** Press to switch between the SET ALARMS dialog and the Trend display.
11. **DISPLAY key** Press to switch between the PLETH display and Trend display.
12. **MENU key** Press to switch between the SYSTEM SETUP dialog and the Trend display.
13. **ON/STANDBY key/indicator** Press to turn the monitor on or off or to enter/exit the standby state. In the operating state, press and hold for less than 1 second to switch the device to standby. To turn off the monitor, press and hold for more than 2 seconds. Inside this key there is a working status indicator:
    - **Illuminated**: Indicates the monitor is powered on.
    - **Dark**: Indicates the monitor is powered off.
14. **AC Power indicator**
    - **Illuminated:** Indicates the AC power is connected.
    - **Dark:** Indicates the AC power is not connected.
15. **Battery Status indicator**
    - **Illuminated:** Indicates the unit is on and the battery is inserted.
    - **Flashes:** Indicates the system is on and in low battery status.
    - **Dark:** Indicates the battery is not inserted. The battery indicator also remains dark when monitor power is off.
16. **UP Arrow key** Moves the cursor up within the LCD display (17).
17. **LCD Display** Displays startup screen, menus, trend data, PLETH waveforms, and current date and time.
18. **OK key** Selects the highlighted option. In the trend view, pressing this key displays the REVIEW SETUP dialog.
19. **DOWN Arrow key** Moves the cursor down within the LCD display (17).
20. **SpO_2 Connector** Used to attach a SpO_2 sensor to the RosieV3.
21. **Resident Size indicator** Resident sizes include adult, pediatric, or neonate from left to right.
22. **NIBP Status indicator**
    - **Illuminated:** Indicates the monitor is ready to perform an NIBP measurement.
    - **Dark:** Indicates that interval NIBP measurement is in progress or device not ready to perform an NIBP measurement.

23. **RESIDENT SIZE key** Changes the Resident size by cycling through adult, pediatric, and neonate. Resident size changes only when this key is pressed and held for one second.
24. **START NIBP key** Starts an NIBP measurement
25. **DEFLATE key** Stops an NIBP measurement that is in progress and deflates the cuff. Pressing this key while in the interval mode suspends the interval mode operation until the Start NIBP key is pressed again.

    NOTE: Interval display flashes between pressing the Deflate key and pressing the Start NIBP key.

26. **INTERVAL key** Changes the NIBP measuring mode and interval by cycling through the modes and intervals displayed in the NIBP Interval indicator (27), as follows: OFF (manual), STAT, or 1, 2, 3, 5, 10, 15, 20, 30, 60, 120, 240 minutes. Pressing and holding the Interval key for 3 seconds directly goes to OFF, i.e. the manual mode.
27. **NIBP Interval indicator** Indicates the current NIBP measuring mode or interval.
28. **Pulse Strength indicator** Indicates the Resident's relative pulse strength by the number of stacked bars.
29. **SILENCE key** A quick press of this key pauses the current alarm for two (2) minutes, after which alarm tone resumes if alarm limits are still violated. If a new alarm condition occurs during the two (2) minutes, a new alarm tone sounds. Pressing and holding this key for more than two (2) seconds disables alarm tones indefinitely. If a new alarm condition occurs while in this state, the monitor automatically exits the alarm silenced state.
30. **Silence indicator**
    - **Dark (Normal state):** when an alarm occurs, the monitor presents an alarm tone, visual indication, and message according to the alarm level.
    - **Illuminated:** Alarm silenced state: when an alarm occurs, the monitor presents a visible alarm and alarm message, but no alarm tone is given. If a new alarm condition occurs, the monitor automatically exits the alarm silenced state.
    - **Flash (Alarm paused status):** when an alarm occurs, the monitor displays a visible alarm and alarm message, but no alarm tone is given. The alarm paused time is 120 seconds, after which the alarm tone sounds again if alarm limits are still violated. The unit counts down the 120 seconds on the LCD display (17) in place of the date and time. If a new alarm occurs during this period, the monitor automatically exits the alarm paused state.
31. **Temperature site** The temperature measuring position and monitoring mode, oral, auxiliary, and rectal selection illuminates.
32. **Temperature Unit indicator** The current temperature unit.
33. **PRINT key** Starts or stops the printer.
34. **NIBP connector** Used to attach the specified NIBP hose to the RosieV3.

Rear Panel



35. TEMP probe sheath Holds the temperature probe when not in use.
36. TEMP probe covers Holds the temperature probe covers for easy access.
37. TEMP probe connector Used to attach a temperature probe to the RosieV3.
38. RS-232 connector Used to attach a bar code scanner or DIAP.

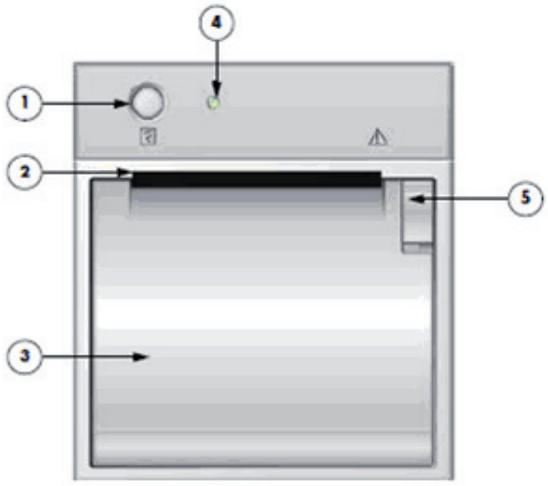
NOTE: When the RS-232 connector is used for DIAP, barcode power must be set to OFF.

39. Nurse call connector Provides compatible communication from the RosieV3 to the hospital's nurse call system.

NOTE: All equipment attached to the communications ports on the RosieV3 must meet the requirements as specified in EN 60601-1-1.

40. Network connector For software updates only.
41. Printer For printing trend data and PLETH waveform.
42. Equipotential grounding connector Used to connect the equipotential grounding connectors of other devices.
43. AC power input connector Connects the monitor to the AC power through a 3-core power cable.

Onboard Printer Module



1. **Print button** Prints the PLETH curve or the trend data on the current display.
2. **Paper outlet** Printer feeds paper out of slot.
3. **Printer door** Access to paper roll.
4. **Power indicator** Indicates power to the printer.
5. **Printer door latch** Secures the printer door.

3.0 SET UP and USING the ROSIEV3

*** Refer to the Quick Reference Guide that came with your RosieV3 ***

3.1 Setting-up and Turning Power On

Connect the monitor to a properly grounded 3-wire hospital grade AC power source.

Verify that the Battery Indicator light is illuminated, allow the unit to fully charge before initial operation (approximately 4 hours).

Press Power to activate the unit. The system beeps indicating the software has loaded. All the LEDs on the front panel light up. The technical alarm lamp turns yellow, red, then turns off to indicate the self test related to alarm lamps passed. After the RosieV3 initializes, the start-up screen clears, and the Trend display shows in the LCD Display.

Test the printer by pressing Print. The printer prints trend data displayed on the LCD screen to verify proper printer function.

If the Temperature module is installed, test the predictive thermometer by removing the probe from its holder.

Verify that the message “Temp Warming Up” displays, followed by the message “Predictive Temp Ready” and a double beep.

3.2 Power OFF and Standby

RosieV3 will ***NOT*** power off by itself! When not in use Power Off or put in Standby to conserve battery life.

Press Power for two (2) seconds or more to turn off the monitor. For standby press Power for less than 1 second and confirm by pressing OK. To exit standby, press any key on the device and confirm by pressing OK.

Once the monitor exits Standby mode; it enables alarms, restores all functions, restores communication, and starts to save trend data.

3.3 Selecting a Configuration

When power to the RosieV3 is turned on, it automatically loads one of three configurations.

- The FACTORY DEFAULT (or FACTORY CONFIG) is installed by the factory and cannot be modified.
- The USER CONFIG is selected by following the steps in Section 3.7
- The LAST CONFIG consists of the parameter settings in use before the unit was powered off.

To load a user configuration or factory default configuration after the RosieV3 is powered on: Press Menu to display the SYSTEM SETUP dialog; highlight **DEFAULT** press OK. Select and highlight a configuration to load. Once the choice is highlighted, press OK to select it. Highlight **OK**; press OK and Menu to exit to the Trend display.

NOTE: Load user config recommended.

3.4 Common Setup

Set volumes and display visuals by pressing Menu to display the SYSTEM SETUP dialog. Highlight **COMMON SETUP**; press OK to display the COMMON SETUP dialog.

To set alarm, key, pulse volume, or NIBP end tone volume; highlight the field to be adjusted. Once the selected field has been highlighted; press OK to activate it. Arrow up or down to change the value; press OK to set it.

To adjust the brightness or contrast on the RosieV3 LCD Display for optimum viewing; highlight the contrast or brightness selection field. Once the selected field has been highlighted; press OK to activate it. Arrow up or down to change the value; press OK to set it.

Press Menu twice to exit to the Trend display.

NOTE: Any changes made to LCD BRIGHT and LCD CONTRAST remain when the monitor is turned off and then on again.

3.5 Setting the Clock

Set the clock during normal operation or in the User Configuration. There are six (6) properties to set in the clock dialog: DATE FORMAT, YEAR, MONTH, DAY, HOUR, and MINUTE.

NOTE: The RosieV3 always displays time in a 24-hour format.

Press Menu to display the SYSTEM SETUP dialog. Highlight the **TIME SETUP** field and press OK to display the TIME SETUP dialog. Once the property has been highlighted; press OK to activate it. Arrow up or down to change the value; press OK to set it.

Press Menu twice to exit to the Trend display.

3.6 Setting Alarms Limits

The factory and custom defaults for alarms can be changed as required to accommodate the needs of individual Residents.

Pressing Set Alarms toggles between the Trend display and the SET ALARMS dialog.

Display the SET ALARMS dialog. Highlight a **HI** or **LO** alarm limit; once the alarm limit is highlighted; press OK to select it. Arrow up or down to change the alarm limit value; press OK to set it.

NOTE: The high end of a HI (high) alarm limit is OFF, and the low end of a LO (low) alarm limit is OFF.

Press Set Alarms to exit to the Trend display.

NOTE: If the patient size is changed and it is the first time that patient size is selected, the alarm setting change to the factory default settings.

3.7 Creating and Selecting a Default Power-on Configuration

The operator can set custom and select default settings. Each time the RosieV3 is turned on, it will boot-up using the selected Configuration (custom default settings).

Press Menu to display the SYSTEM SETUP dialog. Highlight **MAINTENANCE** and press OK to display MAINTENANCE dialog. (See note)

NOTE: If Barcode Reader is to be used turn QUICK ADMIT Off, if not used ensure that it is On.

Select USER MAINTENANCE and press OK to display password dialog. Enter password of 3, 2 and 1, highlight **OK**. Press OK to display USER MAINTENANCE dialog.

By highlighting the following selections you may make changes to the user configuration as required.

MIN ALARM VOL: Sets the alarm volume level or turns off.

NOTE: If turned off you must make changes to alarm volume (see 3.6) and set alarm vol to 0.

SpO_2 SENSOR OFF: Turn on for continuous alarm tones if sensor is not connected to monitor or the Resident.

PATIENT SIZE: Select patient size for default at turn on.

LANGUAGE: Select language.

To save the newly created configuration: Highlight **SAVE USER CONFIG** and press OK to save and when the confirmation request is displayed highlight **OK** and press OK to confirm saving.

Press Menu twice to exit to the Trend display or highlight **SELECT CONFIG** and press OK to display the SELECT CONFIG dialog.

Three choices are available:

- **FACTORY CONFIG** Is installed by the factory and cannot be modified.
- **USER CONFIG** Is selected by following the steps in Section 3.7
- **LAST CONFIG** Consists of the parameter settings in use before the unit was powered off.

Highlight a default power-on configuration. Once the configuration is highlighted, press OK select it, highlight **OK** and press OK. Press Menu twice to exit to the Trend display

3.8 Patient Setup

Entering Patient ID

Press PATIENT INFO to display the PATIENT INFORMATION dialog. Verify PATIENT TYPE. Press OK.

Patient Type

To select Resident Size, press PATIENT SIZE. Three choices are available: Adult, Pediatric, and Neonate. The Resident size changes with each key press.

NOTE: Hold key for more then 2 seconds.

The Patient Size indicator illuminates to indicate the selected size as shown.

NOTE: Resident size selection determines the initial cuff pressure. Default settings: Adult 180mmhg, Pediatric 140mmhg, Neonate100mmhg.

3.9 Attaching BP Cuff

Attach the cuff hose to the NIBP connector by holding the hose behind the knurled pressure fitting (female). Push onto the male connector until a "click" is heard. To remove, hold the knurled female fitting and pull firmly to release.

3.10 Manual NIBP Measurements

Adult/Pediatric Cuff Placement and Positioning

Proper cuff size and placement is essential to assure accurate blood pressure measurements. The American Heart Association recommends cuff sizes should be at a length to width ratio of about 2:1, ensuring that if the bladder width is 40 percent the arm circumference, the bladder length will encircle 80 percent of the arm.

If the cuff is too small, the bladder width may be so small that the full cuff pressure is never applied to the artery (see figure A), and erroneously high-pressure reading results. If the cuff is too large, the extra width lengthens the time it takes for the blood to pass completely under the cuff, creating an erroneously low systolic measurement. In Figure B the bladder width is adequate for the arm, and the full cuff pressure is applied to the brachial artery.

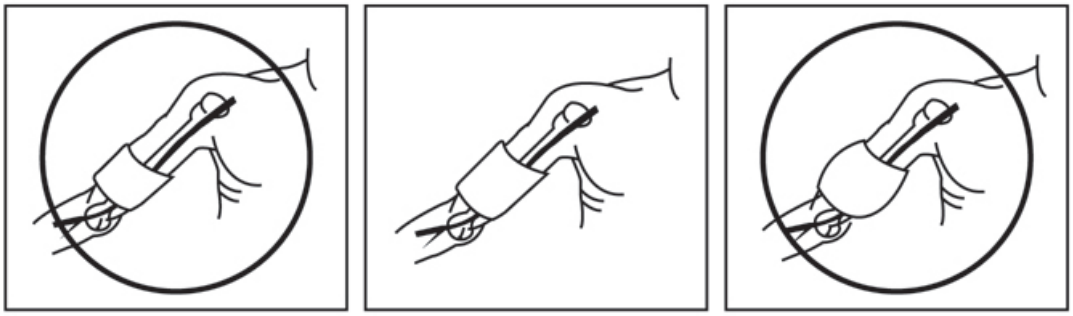


Figure A Figure B Figure C

Cuffs for the thigh are available for large Residents or those where neither arm is available for cuff placement. Blood pressure measured at the thigh is typically 20-30 mmHg higher than blood pressure measured at the upper arm.

The artery mark on the center of the cuff should be placed over the brachial artery. Make sure not to twist or kink the hose. The brachial artery is located on the inside of the upper arm -- it is NOT located directly above the location where the stethoscope is placed when manual measurements are taken.

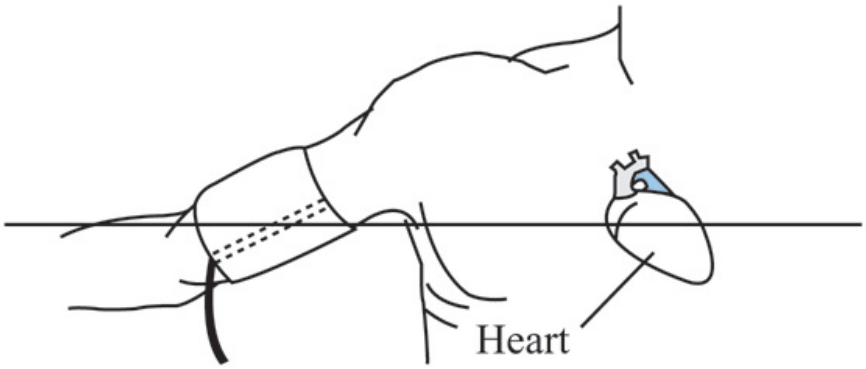
NOTE: Be aware of the actual location of the Brachial Artery. It is located on the inside of the upper arm.

The end of the cuff should fall inside the range marks clearly identified on the inside of the BP cuff. If the end of the cuff does not fall within this range, increase or decrease the size of the cuff so that the new cuff fits correctly.

Wrap the cuff snugly so that two fingers can be placed between the cuff and the arm (above and below the cuff).

If the cuff is wrapped too loosely, it cannot be inflated properly, there may be errors in measured values, and the Resident is likely to be uncomfortable. It is best to wrap the cuff around a bare arm as clothing may cause errors in measured values.

Keep the cuffed part of the arm at the same level as the heart. The arm should also be resting on a level surface to reduce muscle tension that may cause an increase in blood pressure measurements.



NOTE: If the arm is above the level of the heart, the blood pressure measurement may be lower than the actual value: if the arm is below the heart level, the blood pressure may be higher than the actual value (due to the physical weight of the blood).

Position the limb and cuff at heart level to avoid a pressure reading error due to hydrostatic pressure.

Check hose connections and cuff placements routinely for folds, kinks, cracks or any pressure being applied to the outside of the hose casings.

Taking NIBP Measurement

After applying the cuff, wait until the Resident relaxes before initiating a measurement (the Resident needs to be reasonably still to avoid motion artifact).

Insure Interval display is OFF, if not press and hold the Interval key for over three seconds.

Start measurement by pressing the START NIBP key.

Inaccurate measurements can also occur during –

- External motion artifact as in Resident movement, CPR, or bed movement.
- Serious episodes of shock, hypotension, or decreased body temperature.
- Frequent episodes of arrhythmia.

CAUTION: When the measurement has failed or if a measurement value is questionable, always verify the Resident's blood pressure using another technique.

3.11 Automatic NIBP Measurement (Interval Mode)

The RosieV3 may be set to automatically take NIBP measurements. When powered up, the interval setting defaults to the last used setting.

NOTE: In this mode, adaptive inflation is always enabled.

WARNING: Continued use of the STAT NIBP mode or short term automatic mode may result in surface vessel rupture (petechia).

Follow steps in the manual NIBP measurement procedure, section 3.10.1, to select, attach and apply the cuff.

Starting an Automatic Measurement

To make your interval selection, press Interval key to display and scroll through the interval selection in the NIBP Interval Indicator.

Press Start NIBP to take a measurement and to activate the interval mode.

NOTE: When the NIBP STAT interval is chosen, the RosieV3 takes back to back (one right after the other) blood pressure readings. As a safety precaution, there is a five minute or 10 measurement limit for continuous NIBP measurements. After 5 minutes or 10 measurements, the NIBP module automatically switches to the mode in use before NIBP STAT was selected. This reduces the chance of surface vessel rupture (petechia).

To cancel a scheduled measurement, press Deflate key, which suspends the timed NIBP measurements until Start NIBP is pressed.

3.12 Temperature Measurement

The SmarTemp™ TEMP module is intended for monitoring oral, auxiliary, and rectal temperature of adult and pediatric Residents.

NOTE: If the Resident size is adult or pediatric, the RosieV3 automatically selects oral as the measurement site if the oral/axillary temperature probe is in use. You can change the measurement site in the TEMP SETUP dialog.

Press Menu to select SYSTEM SETUP dialog, highlight **TEMP SETUP** press OK.

Highlight **TEMP TYPE, TEMP POSITION** or **TEMP UNIT** field. Once the selection field has been highlighted, press OK to activate it, arrow to make selection and press OK.

Repeat steps as needed.

Press Menu twice to exit to the Trend display.

Predictive Mode Measurements

Insure "Predictive" and "Oral" were selected in TEMP SETUP dialog (see 3.12).

Remove oral probe from probe sheath; insert the appropriate (oral or rectal) probe completely and firmly into the (appropriate) probe cover being sure the cover is on securely

NOTE: Probe must be warmed up for accurate temperature reading. Warming up takes approximately 10 seconds and the monitor will beep twice when probe has completely warmed up and is ready to be used.

NOTE: Obtain accurate temperatures in the sublingual pocket. Temperatures in other locations in the mouth may vary by two degrees F (one degree C) or more. Hold the probe steady in this location. The patient's mouth must be closed for the measurement. The thermometer reading begins to flash, and then indicates the rising temperature as the measurement proceeds.

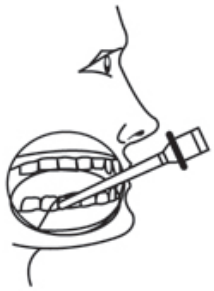
NOTE: The tip of the probe should not come in contact with a heat source (i.e., hands or finger) prior to taking a temperature. If this happens, allow at least 5 seconds for the tip to cool before proceeding with the reading.

NOTE: The thermometer turns itself off about 3 minutes after turning it on, or when the probe is returned to the probe sheath. Always store the probe in the sheath for it's protection and to reset the temperature module.

NOTE: The thermometer will not take a reading if the patient's temperature is less than 6°F (3.3°C) above the ambient temperature.

CAUTION: Failure to firmly install the probe cover may result in the probe cover becoming loose or disengaged during use. Be careful not to press the probe ejection button (where the cord exits the probe) during use.

Have the Resident open their mouth slightly. Holding the probe loosely, place the probe tip into the sublingual pocket. Hold the probe during the entire temperature measurement process and keep the probe tip in contact with the tissue at all times. Do not allow the Resident to reposition or hold the probe.



While the Resident's temperature is being taken, the Temp LED readout will show a moving pinwheel. A beep will sound when the measurement is completed, and the display will show the temperature in large RED numbers. The value will remain on the screen until another temperature is initiated.

CAUTION: If an unusually high or low temperature reading is obtained, confirm the reading using another temperature measuring device before beginning any treatment.

Once the measurement is completed, hold the probe as you would a syringe and press the probe eject button at the base of the probe to release the used cover into a waste container and return the probe into the probe sheath to prepare for the next measurement.

Rectal Mode Measurement

Insure "Predictive" and "Rectal" were selected in TEMP SETUP dialog (see 3.12).

To take a rectal temperature, use the optional red thermometer probe and sheath. Install a disposable cover as described for oral use and insert the probe into the Resident's rectum. To insure

proper tissue contact, angle the probe slightly after insertion as shown in the accompanying illustration (fig 3.1). Recommended insertion depth is ½" to ¾" for adults and ¼" to ½" for children. A lubricant may be used if desired. The measurement will proceed similarly to the oral measurement, and the final reading will replace the pinwheel pattern in the LED window.

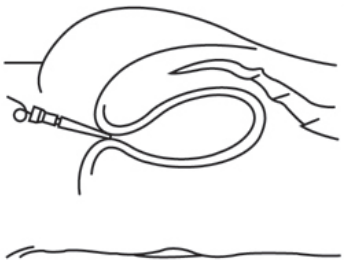
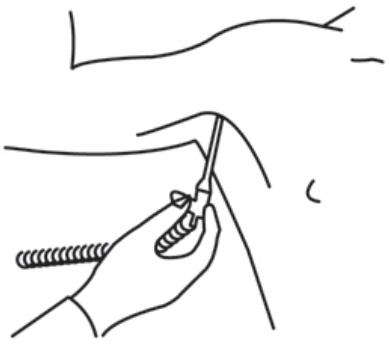


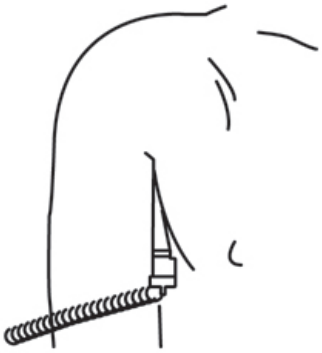
Figure 3.1

Axillary Mode Measurements

Insure "Predictive" and "Axillary" were selected in TEMP SETUP dialog (see 3.12).

For axillary temperature measurements, remove probe from temperature probe well and attach probe cover. Place the probe in the Resident's axilla, making sure the tip of the probe is in contact with the skin and positioned as close as possible to the axillary artery and with the Resident's arm held close to their side. Once the Resident's temperature is taken, remove the probe, eject probe cover, and gently return the probe to the probe well.

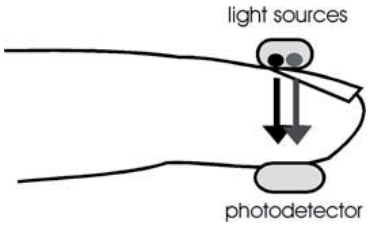




3.13 SpO_2 Measurements

Principles of Pulse Oximetry

Pulse Oximetry provides continuous non-invasive information about the percent of oxygen that is combined with the hemoglobin in the Resident's blood, also referred to as oxygen saturation. In combination with the hemoglobin value, the SpO_2 provides valuable information about arterial oxygen content in the blood.



Pulse oximeters utilize two light-emitting diode "LEDs" of given wavelength. A red light at approximately 660nm and an infrared light at approximately 920nm.

Pleth Waveform

You can see a normalized Pleth Wave Form (pulse strength) from SpO_2 data by pressing Display and print out the Pleth Wave by pressing Print.

Best Sensor Performance

Do not place the sensor on an extremity with the blood pressure cuff in place.

NOTE: Placement of a blood pressure cuff on an extremity may obstruct normal blood flow. False pulse rate information may result if the sensor is placed on that same extremity.

Encourage the Resident to remain still. Resident motion may affect the sensor's performance. Verify the site area is clean / non-greasy. Clean the site and sensor if needed. Remove nail polish and fungus.

CAUTION: Inaccurate readings may be caused by incorrect sensor application or use; significant levels of dysfunctional hemoglobin's (i.e. carbohemoglobins or methemoglobin); or intra-vascular dyes such as indocyanine green or methylene blue; exposure to excessive illumination, such as surgical lamps (especially ones with a Xenon light source), bilirubin lamps, fluorescent lights, infrared heating lamps, or direct sunlight; excessive Resident movement; venous pulsations; electro-surgical interference; and placement of a sensor on an extremity that has a blood pressure cuff, arterial catheter, or intra-vascular line.

Measurements of pulse strength should begin to appear on monitor within 10 seconds. Immediately after the sensor is removed SpO_2 and Pulse Rate reading disappear.

NOTE: If a reading cannot be obtained, or the reading is inaccurate, check the Residents vital signs by alternate means consider the following:

- If the Resident is poorly perfused, try applying the sensor to another site (i.e., a different finger or toe).
- Check that the sensor is properly aligned.

3.14 Storing, Reviewing & Deleting Stored Measurement Data

The RosieV3 automatically stores measurements in trend memory. It stores a maximum of 1,200 rows of data and automatically deletes the oldest data for the currently displayed Resident.

Reviewing Trend Data

Display the REVIEW SETUP dialog by pressing OK while the LCD Display shows Trend List data. The **REVIEW ID** box is highlighted, highlight the **FIELD** to the right showing the Patient ID to be reviewed and press OK. Arrow to select a Patient ID for review, once the Patient ID shows in the field, press OK to select it.

The trend mode determines which data is displayed in the Trend List. The REVIEW MODE field selections are:

ALL View all data based on the time of each measurement.
NIBP View all data based on the time of the NIBP measurement. If SpO_2 or temperature is acquired within 2 minutes of the NIBP measurement, then SpO_2, PR, and temperature will be displayed on the same line as the NIBP measurement.
TEMP View only data that includes temperature measurements.

To select a review mode, highlight the **REVIEW MODE** field press OK to select it. Arrow to select a review mode and press OK to select it.

NOTE: NIBP is recommended

To exit the REVIEW SETUP dialog, use arrow keys to highlight **OK**, then press OK.

Deleting Stored Resident Trend Data

Display the REVIEW SETUP dialog by pressing OK while the LCD Display shows Trend List data. Highlight the **DELETE check box** press OK; highlight the **FIELD** to the right showing the delete items press OK. The selections are:

ITEMS OF ALL ID Deletes all stored trend data.
ITEMS OF CURRENT ID Delete all items from the current ID's stored trend data.
CURRENT ITEM Delete only the item selected in the LIST Display when the REVIEW SETUP dialog was entered.

Use arrow keys to select a delete field and press OK. Exit the REVIEW SETUP dialog, use arrow keys to highlight **OK**, then press OK to complete the deletions.

Exiting the REVIEW SETUP Dialog

To exit the REVIEW SETUP dialog highlight **OK**, press OK to accept the selections and return to the Trend List Display.

NOTE: Select CANCEL and then press OK to cancel the any Changes or Deletions.

3.15 Onboard Printer

The RosieV3 provides a permanent record of Resident data using the onboard printer.

To PRINT the data on the current display, press Print.

3.16 Battery Operation

When the RosieV3 is powered from the battery and switched on, the Battery Status indicator illuminates, and the AC Power indicator remains dark.

When the battery charge is low, but not below the cutoff voltage the battery indicator flashes. When the LED begins to flash, at least 5 minutes of low battery warning time remain.

Battery run time for the RosieV3 is approximately 540 minutes for a new Lithium-ion battery, fully charged, at an ambient temperature of 25°C (77°F) with one automatic NIBP measurement taken every 15 minutes, continuous SpO_2 measurement, and the printer not in use.

The RosieV3 automatically recharges the battery, when required, if the monitor is plugged into an AC receptacle. When the unit is plugged into an AC receptacle, the Battery status indicator is always illuminated. Maximum battery recharge time is 4 hours for Lithium-ion with the RosieV3 in standby mode or off, and 6 hours in normal running mode (not in Standby mode).

4.0 *Maintenance Care*

The RosieV3 is stable for operation over long periods of time and under normal circumstances should not require technical maintenance beyond that described in this section.

4.1 Cleaning Your RosieV3

WARNING: Be sure to shut down the system and disconnect all power cords from the outlet before cleaning the equipment.

The equipment should be cleaned regularly. Before cleaning the equipment, consult your facilities regulations for cleaning, disinfecting and sterilizing equipment.

The exterior surfaces of the equipment may be cleaned with a clean and soft cloth, sponge or cotton ball, dampened with a non-erosive cleaning solution.

NOTE: The sodium hypochlorite of the concentration ranging from 500ppm (1:100 diluted bleaching agent for home use) to 5000ppm (1:10 diluted bleaching agent for home use) is effective. The required concentration depends on the quantity of the organic substances (such as blood, mucus) on the equipment surface.

To avoid damage to the equipment, please follow these rules:

- ALWAYS dilute the solutions according to the manufacturer's suggestions.
- ALWAYS wipe off all the excess cleaning solution with a dry cloth after cleaning.
- NEVER submerge the equipment into water or any cleaning solution, or pour or spray water or any cleaning solution on the equipment.
- NEVER permit fluids to run into the casing, switches, connectors, or any ventilation openings in the equipment.
- NEVER use abrasive or erosive cleaners of any kind as well as cleaners containing acetone.

CAUTION: Failure to follow these rules may damage the housing, or blur lettering on the labels, or cause equipment failures.

4.2 Disinfecting Your RosieV3

Recommended sterilization material:

- Alcohol based (Ethanol 70%, Isopropanol 70%), and aldehyde based.
- Super Sani-Cloth (0.5% Quaternary ammonium chloride and 55% Isopropyl alcohol).

CAUTION: ALWAYS dilute the solutions according to the manufacturer's suggestions and adopt lower concentration if possible.

CAUTION: NEVER submerge the equipment into water or any solution, or pour or spray water or any solution on the equipment.

CAUTION: ALWAYS wipe off all the excess liquids on the equipment surface and accessory surface with a dry cloth.

CAUTION: NEVER use EtO (Ethylene Oxide) to disinfect the equipment.

CAUTION: NEVER permit high-pressure and high-temperature disinfection of the equipment and accessories.

CAUTION: Do not get the detergent into any vent openings.

4.3 Decontamination of the SmarTemp™ TEMP Probe

WARNING: Perform the decontamination or cleaning process with the unit powered down and power cord removed.

Use LpH SE Germicidal detergent to decontaminate a probe that has come in contact with a biological material. Apply a small amount of detergent to a disposable wipe (paper based) and wipe down the outside of the probe. Discard the wipe appropriately. After waiting 10 minutes, use a clean dry wipe to dry the probe.

4.4 Sterilization and Cleaning of Reusable Cuffs

Take out the bladder before cleaning and disinfecting the cuff.

NOTE: Some disinfectants may cause skin irritation. Rinse cuff thoroughly with water to remove any residual disinfectants.

NOTE: Using dark colored soaks may stain the cuffs. Test a single cuff to ensure that no damage occurs.

NOTE: When cleaning cuffs do not use excessive amounts of liquid. Wipe the cuff surface with a soft cloth, dampened with the cleaning solution.

Cleaning

Hand wash or machine wash the cuff in warm water or with mild detergent. Clean the bladder with a damp cloth. Air-dry the cuff thoroughly after washing.

NOTE: Machine washing may shorten the service life of the cuff.

Disinfection

Disinfect the cuff with a damp cloth with 70% ethanol or 70% isopropanol or with ultraviolet.

Disinfect the bladder only with ultraviolet.

NOTE: Prolonged use of disinfectant may cause discoloration of the cuff.

- Do not dry clean the cuff.
- Do not use detergent and disinfectant other than 70% ethanol or 70% isopropanol.
- Clean and disinfect the cuff according to the instructions.

4.5 Battery Maintenance and Replacement

Battery Maintenance

The RosieV3 uses a Lithium-ion battery. This battery type may be subject to local regulations regarding disposal. At the end of the battery life, dispose of the battery in accordance with any local regulations.

CAUTION: Recharge the Lithium-ion battery while in the unit at room temperature. If using the RosieV3 in a hot environment, the Lithium-ion battery may not charge when the unit is connected to AC.

CAUTION: Remove the battery if the RosieV3 is not likely to be used for an extended period of time.

Battery Replacement

Use only the specified battery replacement. Batteries are shipped partially charged and require fully charging prior to use. Charge the Lithium-ion battery the RosieV3 for 4 hours minimum prior to use.

NOTE: If the RosieV3 is plugged into the AC mains, the Battery Status indicator illuminates if a battery is inserted. The Battery Status indicator also illuminates if the RosieV3 is turned on with a battery inserted and the AC mains unplugged.

4.6 Printer Maintenance

Printer Paper Replacement

Use only recommended printer paper (P/N 0683-00-0505-02.) This ensures that the print quality is acceptable and reduces printer head wear.

Open the printer door, located on the left side panel, by pulling down on the printer door latch, located on the upper right side of the printer door.

NOTE: If the printer door does not open completely, carefully pull the door until it is completely open.

Remove empty paper spool place the paper roll in the holder with the sensitive (shiny) side of the paper facing upward unroll approximately six (6) inches of paper and close the printer door.

4.7 Care and Storage of Thermal Paper

Thermal chart paper is chemically treated and the permanency of the printout can be affected by storage and handling conditions. Conditions which may affect the integrity of the paper and printouts are:

- **Ultraviolet Light** - We recommend storing the printouts in a filing cabinet within a few days of printing. Long term exposure to natural or artificial UV sources may be detrimental.
- **Storage Temperature and Humidity** - Keep the printouts in a cool and dry area for a longer lasting image. Extreme temperature and humidity (above 80 °F and 80% humidity) should be avoided.
- **Solvent Reactions** - Do not store the printouts in plastic bags, acetate sheet protectors and similar items made from petroleum products. These products emit a small amount of vapor which will, over a period of time, deteriorate the image on the chart paper.
- **Adhesive Tape** - Never place adhesive tape over printouts. The reaction between adhesive compound and the chemical/thermal paper can destroy the image within hours.
- **Archives** - We recommend that if long term archives are required; make a photocopy of the printouts as a back-up. Under normal office filing conditions the print outs should retain acceptable image quality for about five (5) years.

5.0 RosieV3 Troubleshooting

5.1 Physiological Alarm Messages

ALARM MESSAGE	LEVEL	CAUSE	ACTION
HIGH PR	H	PR value exceeds the upper alarm limit	Make sure the alarm limits are appropriate for the Resident, and check the Resident's condition.
LOW PR	H	PR value is lower than the lower alarm limit	
HIGH SPO2	H	SpO_2 value exceeds the upper alarm limit	
LOW SPO2	H	SpO_2 value is lower than the lower alarm limit	
HIGH SYS	H	SYS value exceeds the upper alarm limit	
LOW SYS	H	SYS value is lower than the lower alarm limit	
HIGH DIA	H	DIA value exceeds the upper alarm limit	
LOW DIA	H	DIA value is lower than the lower alarm limit	
HIGH MAP	H	MAP value exceeds the upper alarm limit	
LOW MAP	H	MAP value is lower than the lower alarm limit	
NO PULSE	H	The SpO_2 pulse signal of the Resident is so weak that the monitor cannot perform pulse analysis	Check the connection of the sensor and the Resident's condition.

5.2 Technical Alarm Messages

XX - A parameter module such as NIBP or SpO_2, or a parameter label, such as PR and SpO_2, but not PRINTER (for PRINTER, see Printer Module Alarms).
A – Indicates whether all alarm indications can be cleared or not
B - Indicates whether all alarm indications except the alarm message can be cleared or not.
LEVEL - Alarm level
H - High
L - Low
N - Error code
- Resident category (adult, pediatric, or neonate)

General Alarm Messages of Parameter Modules

ALARM MESSAGE	A	B	LEVEL	CAUSE	ACTION
XX INIT ERR N	Yes	No	H	An error occurs to the XX module during initialization.	Restart the monitor. If the problem persists, contact service personnel for repair.
XX COMM STOP	No	No	H	Failure in communication between XX module and the main board.	
XX COMM ERROR	No	No	H	Failure in communication between XX module and the main board.	
XX ALM LMT ERR	No	No	H	The alarm limit of the XX parameter is changed inadvertently.	If the problem persists, contact service personnel for repair.
XX OUT OF RANGE	No	No	H	The measured XX value exceeds the measurement range.	

NIBP Module Alarm Messages

ALARM MESSAGE	A	B	LEVEL	CAUSE	ACTION
NIBP SELF TEST ERR	No	No	L	An error occurs during NIBP module initialization.	Select NIBP RESET in the MAINTAIN menu. If the problem still exists, contact Technical Support.
NIBP INIT ERR	No	No	L	An error occurs during NIBP module initialization.	Restart the monitor. If the problem still exists, contact Technical Support.
NIBP COMM ERR	No	No	L	Communication between NIBP module and the host fails.	
LOOSE CUFF	No	No	L	NIBP cuff is not properly connected.	Reconnect the NIBP cuff.
AIR LEAK	No	No	L	The NIBP cuff is not properly connected or there is leak in the airway.	Check the connections or use a new cuff. If the problem persists, contact Technical Support.
AIR PRESSURE ERROR	No	No	L	Failures occur in the pulse measurement. The monitor cannot perform measurement, analysis, or calculation.	Check the connections between the cuff, the monitor and the Resident. Or use a new cuff. It the problem persists, contact Technical Support.
NIBP WEAK SIGNAL	No	No	L	Failures occur in the pulse measurement. The monitor cannot perform measurement, analysis, or calculation.	Check the Resident's condition and verify Resident type. Replace with an appropriate cuff and connect it correctly. If the problem still exists, contact Technical Support.
NIBP OVER RANGE	No	No	L	Failures occurred in the pulse measurement. The monitor cannot perform measurement, analysis, or calculation.	
EXCESSIVE MOTION	No	No	L	Excessive motion of Resident's arms.	
OVER PRESSURE	No	No	L	The airway might be blocked.	

NIBP Module Alarm Messages (cont).

ALARM MESSAGE	A	B	LEVEL	CAUSE	ACTION
SIGNAL SATURATED	No	No	L	A failure occurred during pulse measurement. The monitor cannot perform measurement, analysis, or calculation.	Check the Resident's condition and verify Resident type. Replace with an appropriate cuff and connect it correctly. If the problem still exists, contact Technical Support.
PNEUMATIC LEAK	No	No	L	Leak in the airway.	
NIBP SYSTEM FAILURE	No	No	L	Failures occur in the pulse measurement. The monitor cannot perform measurement, analysis, or calculation.	
NIBP TIME OUT	No	No	L	Failures occur in the pulse measurement. The monitor cannot perform measurement, analysis, or calculation.	
CUFF TYPE ERR	No	No	L	The cuff used does not correspond to selected Resident type.	
NIBP RESET ERROR	No	No	L	Illegal reset during NIBP measurement.	Check the airway and take measurements again. If the problem still exists, contact Technical Support.

DPM SpO_2 Module Alarm Messages

ALARM MESSAGE	CAUSE	ACTION
SPO2 SENSOR OFF	SpO_2 sensor may be disconnected from the Resident or the monitor	Plug the sensor into the monitor or the sensor into the cable. Place the sensor on the Resident
SPO2 INIT ERR1	SpO_2 module failure	Notify facilities technician or service personnel
SPO2 COMM STOP	SpO_2 module failure or communication error	
SPO2 COMM ERR	SpO_2 module failure or communication error	
SPO2 ALM LMT ERR	Functional failure	
PR ALM LMT ERR	Functional failure	
SPO2 EXCEED	SpO_2 value exceeds the measurement range	Check Resident, notify physician
PR EXCEED	PR value exceeds the measurement range	
SEARCH PULSE	SpO_2 module is searching for pulse	Change sensor sites, ensure site is not on a limb with vasoconstriction or other conditions which would contra-indicate use. Change or readjust sensor if loose or disconnected.
Unable to obtain SpO_2 reading	• Resident has poor perfusion • Sensor not applied properly • Cables loose / not connected • Ambient light detected	• Move sensor to limb with better perfusion, notify physician • Reapply sensor • Check connections, switch cables • Switch limbs and cover sensor with an opaque material
No SpO_2 waveform	Cable or sensor not plugged in	Check connections and sensor Replace as necessary
Low amplitude SpO_2 signal	• SpO_2 sensor on same limb as blood Pressure cuff • Resident has poor perfusion	• Check sensor placement, move as necessary • Move sensor to limb with better perfusion, notify physician

SmarTemp™ TEMP Module Alarm Messages

ALARM MESSAGE	A	B	LEVEL	CAUSE	ACTION
WARMUP TIMED OUT	Yes	Yes	L	TEMP probe initial temperature is too high.	Cool the TEMP probe before taking measurement.
WARMING RESISTOR ERR	No	No	L	The warming resistor in the TEMP probe fails.	Replace the TEMP probe.
TEMP PROBE MISPLACED	Yes	No	L	TEMP probe is not placed in the sheath or the probe sheath is not in place.	1. Check that the probe sheath is in place. 2. Replace the TEMP probe in the sheath properly.
ENV TEMP OVERRANGE	No	Yes	L	The ambient temperature is beyond the measuring range.	Take measurement in proper working Condition.
TEMP VOLTAGE ERR	No	Yes	L	Supply voltage is too high or too low.	Check the power supply.
TEMP NO PROBE	No	Yes	L	The TEMP probe is disconnected from the TEMP module.	Reconnect the probe with the TEMP module.
TEMP PREDICTION ERR	Yes	Yes	L	Improper temperature does not contact with the Resident.	Take TEMP measurement again correctly.
TEMP SELFTEST ERR	No	No	L	An error occurs during the TEMP module initialization	Replace the TEMP module.
TEMP PROBE OFF	No	Yes	L	TEMP probe does not contact with the Resident.	Take measurement again after the probe warms up.
TEMP OVER HIGH LIMIT	No	No	L	The temperature measured is too high or measurement error.	Lower the measured temperature or replace the TEMP module.
TEMP OVER LOW LIMIT	No	No	L	The temperature measured is too low or measurement error	Raise the measured temperature or replace the TEMP module.
TEMP WRONG PROBE	No	No	L	A TEMP probe not supplied by Life Systems, Inc. is used.	Replace with a TEMP probe Life Systems, Inc. supplies.
TEMP COMM ERR	No	No	L	TEMP module is not available or TEMP module fails.	Check if a TEMP module is available. If yes, replace the TEMP module.

Printer Module Alarm Messages

ALARM MESSAGE	A	B	LEVEL	CAUSE	ACTION
PRINTER INIT ERR N	Yes	No	L	An error occurs during the Printer initialization.	Notify facilities technician or service personnel.
REC SELFTEST ERR	Yes	No	L	An error might occur to the RAM, ROM and CPU watchdog.	Restart the Printer. If the error remains, contact service personnel for repair.
PRINTER HEAD HOT	No	No	L	The thermal head of the Printer is too hot.	Resume the recording after the Printer cools down completely. If the problem still exists, contact service personnel for repair.
REC HEAD WRONG POS	Yes	Yes	L	The thermal head of the Printer is in wrong position.	Restore the control lever of the Printer to its previous position.
REC OUT OF PAPER	Yes	Yes	L	The Printer paper is used up.	Replace with a new paper roll.
PRINTER PAPER JAM	No	No	L	The Printer has recorded data on paper for 30m long or more.	Place the Printer correctly and try again.
PRINTER COMM ERR	Yes	No	L	Error in Printer communication.	Clear recording tasks and restart the monitor. If the problem remains, contact service personnel for repair.
TOO MANY REC TASKS	No	No	L	Too many alarm events occur at the same time.	Clear recording tasks and restart the monitor. If the problem remains, contact service personnel for repair.
PRINTER PAPER W.P.	Yes	Yes	L	The paper roll of the Printer is not placed in the correct position.	Place the paper roll correctly.
REC S. COMM ERR	Yes	No	L	Error in Printer communication.	Clear recording tasks and restart the monitor. If the problem remains, contact service personnel for repair.
REC NOT AVAILABLE	No	No	L	Error in the Printer work mode.	Clear recording tasks and restart the monitor. If the problem remains, contact service personnel for repair.

System Alarm Messages

ALARM MESSAGE	A	B	LEVEL	CAUSE	ACTION
REAL CLOCK NEED SET	No	No	L	The system time is incorrect.	Reset the system time and then restart the monitor.
REAL CLK NOT EXIST	No	No	L	There is no button battery, or the battery power is depleted.	Install a button battery or replace with a new one.
NET INIT ERR (G.)	No	No	L	The monitor cannot be connected to the network due to network problem.	Contact service personnel.
NET INIT ERR (RAM)	No	No	L		
NET INIT ERR (REG)	No	No	L		
NET INIT ERR (MII)	No	No	L		
NET INIT ERR (LOOP)	No	No	L		
NET ERR (RUN 1)	No	No	L		
NET ERR (RUN 2)	No	No	L		
NET ERR (RUN 3)	No	No	L		
12V TOO HIGH	No	No	L	A problem occurs to the system's power supply.	If this alarm message occurs frequently, contact service personnel for repair.
12V TOO LOW	No	No	L	A problem occurs to the system's power supply.	
BATTERY TOO LOW	No	No	H	The battery voltage is too low.	Connect the monitor to AC mains to charge the battery.
NET ERROR	Yes	No	L	The monitor is not connected to the network.	Check the network links.

Prompt Messages

PROMPT ISSUE	CAUSE	ACTION
PULSE SEARCH	The SpO_2 module is searching the pulse.	Wait till the end of the search.
REC INITIALIZING	The Printer is initializing.	Wait until initialization complete before printing.
NIBP MEASURING	NIBP measurement in process.	Wait until measurement complete or press (25) to interrupt a measurement and deflate the cuff.
PRESS START NIBP	Interval NIBP measurement has been stopped by pressing (25).	Press (24) to restart NIBP interval mode measurements.
PNEUM TESTING	Pneumatic testing in process.	Wait until testing complete.
MEASUREMENT COMPLETE	A measurement has finished.	None.
NIBP RETRY	NIBP measurement failed and is retrying.	Wait until measurement complete or press (25) to interrupt a measurement and deflate the cuff.
NIBP RETRY PUMP HIGHER	NIBP measurement failed and is retrying with a higher pressure.	Wait until measurement complete or press (25) to interrupt a measurement and deflate the cuff.
BARCODE FAILED	The barcode reader failed to read the Resident's barcode.	Use another barcode reader. If failure continues, contact service personnel.
STANDBY FAILED	The unit failed to enter the standby mode.	Following instructions in Section 3.4.1 on CD again. If standby fails again, restart unit. If failure continues, contact service personnel.
SPO2 WEAK PULSE	The SpO_2 signal is weak.	Change the sensor site for better signals.
ALARM DISABLED!	One or more alarms are switched off.	Switch on alarm(s).
PRINTER BUSY	The Printer is recording data.	Wait till the end of the recording.
RESETTING	Module is resetting.	Wait till resetting is finished.
CALIBRATING	The NIBP module is being calibrated.	Wait till the end of the calibration.

Prompt Messages (cont.)

PROMPT ISSUE	CAUSE	ACTION
CALIBRATION COMPLETE	The calibration is finished.	None.
PNEUM TEST COMPLETE	The test for air leakage is finished.	
RESET FAILED	The NIBP module fails to be reset.	
TEMP WARMING UP	TEMP module is warming up.	Wait till TEMP module completes warm-up.
PREDICTIVE TEMP READY	TEMP module completes warming up and predictive measurement can be performed now.	Perform predictive TEMP measurement.
PREDICTIVE TEMP COMPLETE	TEMP predictive measurement is finished.	Check TEMP reading.
TEMP MEASURE COMPLETE	TEMP monitoring is over.	Remove the TEMP probe from Resident and insert it in the probe sheath.
SERVER NOT EXIST	Sever is not installed.	Install the server.
CONFIGURATION RESTORED	Last configuration is loaded successfully.	
FAC ADULT CONFIG LOADED	ADULT factory configuration is loaded successfully.	None.
FAC PEDIATRIC CONFIG LOADED	PEDIATRIC factory configuration is loaded successfully.	
FAC NEONATAL CONFIG LOADED	NEONATAL factory configuration is loaded successfully.	
USER ADULT CONFIG LOADED	ADULT user configuration is loaded successfully.	
USER PEDIATRIC CONFIG LOADED	PEDIATRIC user configuration is loaded successfully.	
USER NEONATAL CONFIG LOADED	NEONATAL user configuration is loaded successfully.	

6.0 *Appendix*

6.1 Appendix – Full Operations Manual

*** For step-by-step operating instructions; refer to the Operations Manual (CD) that came with your RosieV3. ***

6.2 Recommended Test and Calibration

Nurse Rosie Products® / Life Systems, Inc. , recommends the following checks and tests be accomplished as required. Any electrical safety test or calibration certification may be performed by a certified Bio-medical technician near your location to satisfy any state or local regulating enforcement requirements. The safety test and certification are the responsibility of the using facility. This service may be provided by Life Systems, Inc. Technical Service Department for established charges.

CHECK/MAINTENANCE ITEM		FREQUENCY
Visual test		When first installing or after reinstalling.
Power on test		1. When first installing or after reinstalling. 2. Following any maintenance or replacement of any main unit part.
NIBP tests SpO_2 test Temperature test	Accuracy test Leakage test Calibration	1. If the user suspects that the measurement is incorrect. 2. Following any repairs or replacement of the NIBP module. 3. At least once per year.
Analog output test		If the user suspects that analog output is abnormal.
Electrical safety tests	Enclosure leakage current test Earth leakage current test Patient leakage current test Patient auxiliary current test	1. Following any repair or replacement of the power module. 2. At least once every two years.
Printer check		Following any repair or replacement of the Printer